

CLAIMS:

1. A method for preparing a soft magnetic thin film of a cobalt and iron-based alloy, comprising the steps of:
 - 5 furnishing a plating tank including a cathode compartment and an anode compartment which are separated by a diaphragm or salt bridge so as to permit charge transfer, but inhibit penetration of iron ions, the cathode compartment receiving a plating solution containing cobalt ions and
 - 10 divalent iron ions, and the anode compartment receiving an electrolyte solution,
immersing a workpiece in the plating solution,
immersing an anode in the electrolyte solution,
effecting electroplating to form a film on the
 - 15 workpiece, and
heat treating the film at a temperature of 100 to 550°C.
2. A method for preparing a soft magnetic thin film of a cobalt and iron-based alloy, comprising the steps of:
 - 20 immersing a workpiece and a soluble anode in a plating solution containing cobalt ions and divalent iron ions,
effecting electroplating to form a film on the
 - workpiece, and
heat treating the film at a temperature of 100 to 550°C.
- 25 3. The method of claim 1 wherein the electroplating is effected by conducting pulse current.
4. The method of claim 1 wherein the soft magnetic thin
- 30 film contains 5 to 70 at% of cobalt and 30 to 95 at% of iron.
5. The method of claim 1 wherein the soft magnetic thin film has a saturation flux density of at least 2.0 T.
- 35 6. A soft magnetic thin film prepared by the method of claim 1.